

Science Improves Animal Agriculture

HALF of the dollars spent for foods and beverages in the United States are spent for foods from animals.

Questions are raised frequently about the production, processing and marketing of animal foods, sometimes with contradictory evidence offered as proof. In order to help clarify such controversies, 25 scientific societies formed the Council for Agricultural Science and Technology (CAST) several years ago.

A current CAST publication compiles relevant scientific data dealing with quantity, quality and safety of "Foods from Animals." Dr. Robert Totusek, head of the Animal Science Department at Oklahoma State University, is one of the 22 task force authors.

One topic discussed is diethylstilbestrol (DES), which was banned last year for use as a growth stimulant for beef cattle.

"DES is a synthetic female sex hormone," the document says. "Like the naturally occurring female sex hormone, it can be carcinogenic if the dosage level is excessive. Its no-

tority is a consequence of a few cases of a rare form of cancer in daughters of certain pregnant women, who, a generation ago, were given as much as 300 milligrams of DES per day by their physicians in an attempt to prevent spontaneous abortions."

No DES residues have been found in muscle tissue of beef animals when DES was used in the legally prescribed manner, but concentrations of .05 to 2.0 parts per billion have been found in a small percentage of beef livers examined. How much is that?

"If all beef livers contained DES at 2 parts per billion, more than 17,000 years would be required, at the average rate of beef liver consumption, for one person to ingest an amount of DES equivalent to that in a single 'morning after' birth control pill containing 24 milligrams of DES," scientists on the CAST task force wrote.

Noting that foods from animals are among the most nutritionally complete foods known, CAST writers emphasized that improved efficien-

cy in animal production benefits consumers.

For example, as a result of scientific developments and their practical application between 1925 and 1975, beef cattle live weight marketed per breeding female increased from 220 pounds to 482 pounds, milk marketed per dairy cow increased from 4,189 to 10,500 pounds, and annual production per laying hen increased from 112 to 232 eggs.

CAST dissolves criticism that principal benefits of production improvements are captured by companies that sell facilities and other products to producers.

"Sooner or later, a greater volume of animal products will almost certainly come to market as a result of the innovation," it is stated. "Then the price must drop to induce consumers to buy the additional amounts offered for sale."

These truths about animal production and consumption are important to Oklahoma, because one of the principal sources of new wealth in this state is our animal agriculture.